

Mineral Industry Surveys

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VANADIUM IN FEBRUARY 2003

Domestic consumption of vanadium in February 2003 was about 9% more than that of the previous month and was only slightly more than that of February 2002, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 189 metric tons at the beginning of 2003.

According to Ryan's Notes (2003b), the range for U.S. ferrovanadium prices during February was \$4.500 to \$4.650 per pound of vanadium content, as compared with \$4.361 to \$4.500 in January. European ferrovanadium ranged from \$10.800 to \$11.250 per kilogram of vanadium content in February as compared with \$9.833 to \$10.211 in January. In February, vanadium pentoxide prices ranged from \$1.856 to \$1.981 per pound, as compared with \$1.633 to \$1.733 in January.

London-based Xstrata announced it had ceased production at its Windimurra Mine in Australia. In related news, little vanadium pentoxide production was coming out of the Tulachermet plant in Russia into Europe due to a power dispute

with its utility (Ryan's Notes, 2003a). The combined news, and resulting tightened supplies, boosted ferrovanadium prices in Europe, and traders looked to buy in the United States and ship to Europe. With the closure of Windimurra removing about 5,400 kilograms (about 12 million pounds) of vanadium pentoxide production from the market, producers believe the remaining supply will be more in balance with world demand of about 70,000 kilograms (about 155 million pounds) and that prices will firm. Xstrata is considering a permanent shutdown of Windimurra, as the outlook for the plant remains poor.

References Cited

Ryan's Notes, 2003a, Windimurra shut; problems at Tula: Ryan's Notes, v. 9, no. 7, February 17, p. 1.
Ryan's Notes, 2003b, [untitled]: Ryan's Notes, v. 9, no. 9, March, p. 4.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM 1/

(Kilograms, contained vanadium)

	2002 p/		2003			
			January		February	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovanadium 2/	2,790,000	189,000 r/	248,000	198,000	225,000	173,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other 3/	351,000	20,200	20,900	20,200	21,000	6,840
Total	3,140,000	209,000 r/	269,000	219,000	246,000	180,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	2002 p/	2003		
		January	February	Year to date
Steel:				
Carbon	878,000	82,800	81,300	150,000
High-strength low-alloy	W	W	W	W
Stainless and heat-resisting	24,100	1,880	2,370	10,200
Full alloy	754,000	69,900	54,600	126,000
Tool	265,000	22,600	32,700	52,900
Total steel	2,070,000	177,000	171,000	339,000
Superalloys	13,400	1,280	990	2,350
Miscellaneous and unspecified 2/	1,060,000	85,700	104,000	209,000
Total consumption	3,140,000	269,000	276,000	550,000

p/ Preliminary. W Withheld to avoid disclosing company proprietary data; included with "Total steel."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND
VANADIUM METAL, INCLUDING WASTE AND SCRAP 1/

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2002	97,500	\$206,000	32,300	\$1,270,000
2003:				
January:				
Canada	39,600	62,700	--	--
Germany	--	--	1,020	63,700
United Kingdom	--	--	8,800	76,900
Total	39,600	62,700	9,830	141,000
Exports:				
2002	529,000	11,700,000	49,200	898,000
2003:				
January:				
Canada	46,700	634,000	--	--
Hong Kong	6,510	87,700	--	--
Japan	13,800	166,000	--	--
Korea, Republic of	5,280	68,600	--	--
Mexico	12,600	164,000	--	--
Senegal	--	--	39,100	2,100,000
United Kingdom	2,420	31,400	--	--
Total	87,300	1,150,000	39,100	2,100,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2002	2,520,000	\$19,400,000	406,000	\$1,990,000	42,300	\$560,000
2003:						
January:						
Austria	15,500	122,000	--	--	--	--
Canada	37,700	347,000	--	--	--	--
Czech Republic	61,700	523,000	--	--	--	--
Germany	--	--	222	5,870	--	--
India	5,660	59,600	--	--	--	--
South Africa	--	--	24,500	156,000	--	--
Total	121,000	1,050,000	24,700	161,000	--	--

See footnotes at end of table.

TABLE 4--Continued
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Exports:						
2002	142,000	\$1,550,000	91,200	\$568,000	203,000	\$1,700,000
2003:						
January:						
Canada	12,200	157,000	--	--	15,300	154,000
China	--	--	2,820	26,800	--	--
India	--	--	--	--	3,760	27,700
Italy	--	--	17,400	98,000	--	--
Japan	--	--	33,800	321,000	332	2,950
Korea, Republic of	--	--	4,040	38,400	--	--
Mexico	--	--	992	11,400	--	--
Malaysia	--	--	1,010	3,710	--	--
Netherlands	--	--	30	3,630	--	--
Total	12,200	157,000	60,100	503,000	19,400	185,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG 1/

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2002	3,830,000	\$520,000	10,300,000	\$1,560,000	243,000,000	\$19,900,000
2003:						
January:						
Canada	37,100	2,480	773,000	130,000	4,540,000	254,000
United Kingdom	--	--	19,600	9,170	--	--
Total	37,100	2,480	792,000	139,000	4,540,000	254,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF
MISCELLANEOUS VANADIUM CHEMICALS 1/

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2002	14,100	\$390,000	48,100	\$567,000
2003:				
January:				
Japan	--	--	50	3,710
Total	--	--	50	3,710

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.